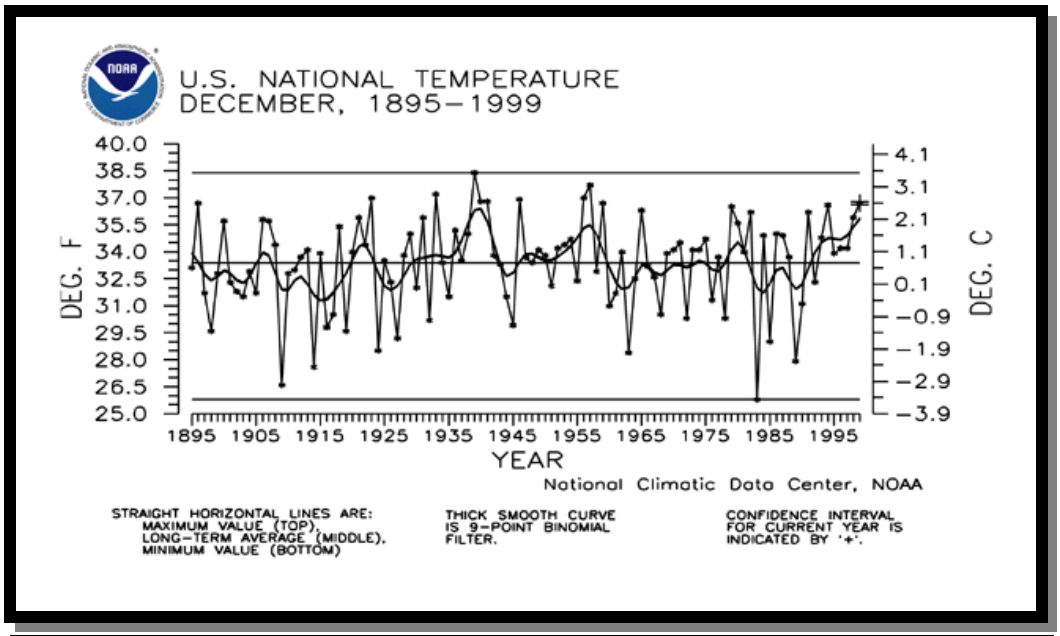
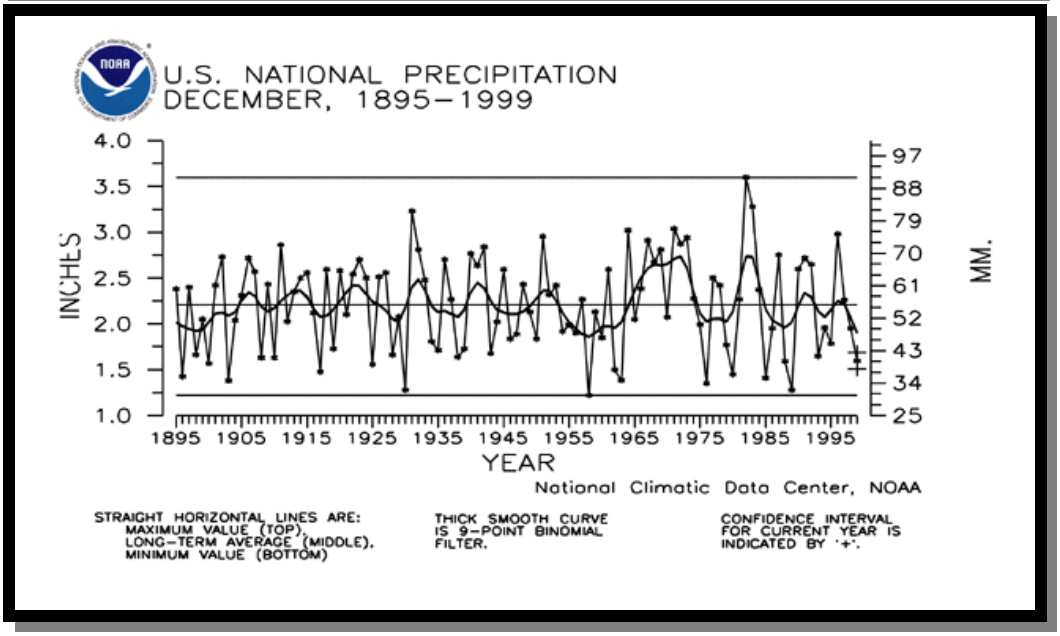
Monthly Activity Report

December 1999





Preliminary data for December 1999 indicated that the monthly mean temperature averaged across the contiguous United States was the 11th warmest such month since 1895. About 15 percent of the country was much warmer than normal, while near zero percent was much cooler than normal (top figure).

Based upon preliminary precipitation data, December 1999 ranked as the 15th driest such month since 1895. Nearly 16 percent of the country was much drier than normal, while about four percent of the country was much wetter than normal (bottom figure).

DIRECTOR'S HIGHLIGHTS

Annual 1999 Climate Review

The National Climatic Data Center's (NCDC) Rapid Response Team provided graphics and text outlining the global and U.S. climate for 1999 to the National Oceanic and Atmospheric Administration (NOAA) for presentation by Dr. James Baker, Under Secretary and Administrator of NOAA, at a Press Conference on December 13th. The report, which went on-line on the 13th, covered temperature and precipitation trends for the U.S. and the globe, summarized temporal and spatial variability for 1999, and listed global and U. S. extreme climatic events. The team also developed a list of significant global weather events for the 20th Century, and cooperated with the National Weather Service in development of a U. S. list of notable events.

Visit to People's Republic of China National Meteorological Center

John Jensen, Chief, Climate Services Division, at the National Climatic Data Center (NCDC), spent ten days in China during December. Dr. Qui Guoqing, Director of the National Meteorological Center (NMC), extended an invitation for an NCDC representative to visit the Climate Data Centers in three cities: Beijing, Nanjing, and Shanghai. The purpose of the visit was to provide presentations to Climate Data Center (CDC) and National Weather Prediction Center personnel on Next Generation Weather Radar (NEXRAD) data processing, archiving and servicing, as well as an overview briefing on the mission and functions of NCDC. Dr. Qui Guoqing, Director of the National Meteorological Center (NMC), and the Director of the Climate Data Center, Ms. Liu, expressed a strong desire to establish a closer relationship with NOAA, particularly NCDC, and improve data exchange activities. Over the next few years, the NMC expects to place into orbit a geostationary weather satellite and deploy up to one hundred weather radars (U.S. NEXRAD) throughout the Peoples Republic of China. NMC is considering procuring a Wind Profiler System for an area outside Shanghai and a robotic tape library system for the CDC in Beijing.

Climate Database Modernization Program

The planning effort for the Climate Database Modernization Program (CDMP) continued during the month as decisions are being made as to available funding and which contract vehicle to utilize. Budget plans are being formulated and milestones are being established. As potential tasks are identified, Statements of Work are being drafted. The initial contracts should be awarded in January 2000.

Project: Y2K Transition/Readiness

The National Climatic Data Center (NCDC) and the National Environmental Satellite, Data, and Information Service's (NESDIS) Day One plans, key personnel lists, and transition activities were distributed and reviewed during the month to insure a smooth Y2K transition. NCDC's August Shumbera coordinated activities and scheduled a report to NESDIS on critical systems performance during the transition. There are no unresolved problems. The NCDC contacted support vendors to ensure that staff would be available on January 1 should the need arise for consultation and assistance in resolving any Y2K problems. All Systems Branch staff were required to work on January 1st to check systems as part of Day One activities.

CLIMATE DATA AND INFORMATION SERVICES

✦ Database Development

Daily Temperature

Climate Archeology and Analysis Branch personnel received updated daily temperature and precipitation data for a 200 station network in China. This is an update through 1998 that corrects past problems with precipitation observations and has been included in the Global Daily Data Set currently being developed.

✦ Data and Information Distribution

December Climate Watch Online

The National Climatic Data Center's (NCDC) Climate Watch Page for December featured a technical report providing probabilities of a white Christmas for locations across the U.S. NCDC normally receives a significant number of queries on this subject at this time of the year. The page also included information on global extremes including disastrous flooding in Vietnam.

Trend Analyses

Climate Archaeology and Analyses Branch personnel provided trend analyses of Midwest winter maximum and minimum temperatures to Dr. Paul Epstein, a climate and disease researcher at Harvard University. He is researching disease vector (insect) overwintering in the Midwest which can be enhanced with warmer winter temperatures.

Time Series Plots

National Climatic Data Center personnel developed a number of special time series plots and sent them to the National Research Council(NRC). These included seasonal temperature plots of global land, ocean, and combined land/ocean time series. They will appear in the NRC publication *Reconciling Observations of Global Temperature Change*.

Publications Available via Online Store

One of the National Climatic Data Center's (NCDC) oldest and most popular serial publications, *Climatological Data* (CD), is now available for direct purchase and subsequent digital delivery via the Online Store. The pub is delivered to the customer as a .pdf file immediately after the order is placed. The monthly and annual CD publications contain daily and monthly climate data from stations in the Cooperative Observer network. The period of record for the online CD publication is October, 1997-present. The monthly editions contain a climate station's daily maximum and minimum temperatures and precipitation, as well as monthly summaries for heating and cooling degree days and other observations.

✦ Satellite Data Requests

TIROS 1 Request

The National Space Science Center (NSSC) in Leicester, England, asked the National Climatic Data Center (NCDC) to furnish a TIROS 1 image from the NCDC web site. NSSC, funded by private sources with matching funds from the Millennium Commission, is due to open in early 2001. This Center will be the only Space Center in the United Kingdom, and expects approximately 300,000 visitors a year. The focus of the Center will be to communicate space and planetary science to the general public.

✦ Congressional Requests

Hurricane Images Prepared

Oversized images of Hurricanes Georges (1998), Floyd (1999), Dennis (1999), Lenny (1999), and Tropical Storm Arlene (1998) were mailed to Neal O'Hara of NOAA Legislative Affairs for presentation to several congressmen. The images have a white border and are of a size large enough to be framed if the congressmen so desire.

✦ Requests from News Media

Interview

A member of the Climate Monitoring Branch at the National Climatic Data Center was interviewed by a correspondent from the *Voice of America* from Miami, FL, for their international program. The interview was in a question and answer format and focused on several related climate issues. The main topics discussed included U.S. and global natural hazards and severe weather events this year, and trends in the current climate.

Syracuse Post-Standard

Dr. David Easterling of the National Climatic Data Center was interviewed by Rebecca James, a reporter with the *Syracuse Post-Standard*, for an article she is writing on 20th century climate trends in the Northeastern U.S.

Media Contacts for 1999 Climate Review

Mike Changery, Chief of the Climate Monitoring Branch at the National Climatic Data Center, had a variety of media requests for additional information following the release of the National Oceanic and Atmospheric Administration's press release on the climate of 1999. Contacts included the Wall Street Journal requesting information on snowfall perspectives; USA Today on linkages of the global warming trend to CO2 emissions; New Hampshire media on the unusualness of the New England climate for the past few years; a Los Angeles consortium requesting additional data for the West Coast; news media in Toledo requesting rankings for 1999 for the Ohio Valley states for 1999 temperature and precipitation; and the Discovery Channel Online requesting a source for photos of extreme snowfall events.

NBC Nightly News Receives Mean Temperature Data

Bruce Cummings of NBC Nightly News contacted the National Climatic Data Center (NCDC) concerning NCDC's web article *Climate of 1999: Annual Review - Preliminary Report*. The article reported that using mean annual temperature values derived from the U.S. Historical Climatology Network (USHCN), preliminary data for 1999 showed it was the second warmest year on record for the United States. The preliminary value for 1999, which is 55.68 degrees Fahrenheit, is second only to 1998, whose value was 56.36 degrees. A list of annual values was faxed to Mr. Cummings, who wished to compare the mean values from 1998 and 1999 with those from previous years this century. Because of the interest shown in these data, NCDC is preparing a web page to display the USHCN mean values from 1900 through 1999 for others to use.

✦ Interesting Requests

NCDC Supports Science Project Effort about Hurricane Marilyn

The National Climatic Data Center provided a detailed report on Hurricane Marilyn to a junior high school student. The narrative was used as the primary information source for a science project about the event. Marilyn hit the Virgin Islands as a hurricane during the afternoon of September 15, 1995, and when the eye wall (the strongest part of the storm) passed over St. Thomas, the one-minute sustained winds were as high as 110 miles per hour. Marilyn was responsible for eight deaths and left more than 10,000 people homeless. The student was able to use the information to prepare colorful trajectories of the storm track, death/damage graphs, and a paraphrased narrative.

Great Lakes Storm

An historian in Michigan contacted the National Climatic Data Center (NCDC) to obtain meteorological data from the early 1900s. The writer is interested in an unusually severe storm which occurred on the Great Lakes during November 1913. The storm caused a great loss of property and lives on the Great Lakes. Several large steel-carrying freighters sank killing all of their respective crews. Additionally, there was an unusual amount of fog reported during the aforementioned month. The NCDC provided the customer with selected pages of meteorological data from the publication *Weather Bureau Climatological Data,* U.S. Department of Agriculture, 1910-1920, for the year 1913.

Carbon Monoxide Poisoning

The National Climatic Data Center (NCDC) was contacted by an insurance adjustor investigating a case involving the accidental deaths of two children. The accident occurred during a family excursion between Justin, TX, and Lake Jackson, TX, in which the father was driving a truck which was hauling a trailer with his four children inside. Apparently, between Conroe and Lake Jackson, the children were overcome by carbon monoxide exhaust from the truck. When the family arrived at Lake Jackson, two of the four children had died of exposure to the fumes. The NCDC offered the adjustor hourly surface weather observations for several meteorological stations en-route for the period in question.

Rough Seas

The National Climatic Data Center (NCDC) was contacted by a freelance writer who is interested in acquiring meteorological data. The data will be used in an article on a winter storm in the North Atlantic Ocean, which damaged two Coast Guard cutters. The storm occurred around early January 1959, approximately 150 miles south of Greenland. The cutters Bibb and McCulloch sustained severe damage, and a crew member of the McCulloch died after being thrown overboard. The NCDC offered the writer Northern Hemisphere Surface Charts and ship observations for the period.

Tundra Snow Road

Daily observations of temperature and snowfall for several locations in Alaska were provided to an engineer with the Alaska Department of Transportation. During winter months, temporary roads are constructed to remote locations by using snow as the building material. Snow is packed over the tundra and leveled into a roadbed. This deep-packed snow prevents any damage to the underlying tundra. Once spring arrives, the snow melts and all evidence of a road across the wilderness disappears. The engineer will use this meteorological data to determine approximately how many days per year they can expect the tundra snow roads to be useable.

✦ Regional and State Climate Centers

RCC Directors Meet

The Regional Climate Center (RCC) Directors met in Asheville, NC, during December, participating in the National Climatic Data Center's (NCDC) FY 02 Initiatives meeting. Further discussions were held in regards to Unified Climate Access Network, the RCC Management Plan, preparations for the FY 00 Cooperative Institute for Atmospheric Sciences and Terrestrial Research grant process, and the Business Plan. Updates to the plans will be made and sent out for final approvals. To facilitate the converging of the RCC and NCDC online systems, a Service Integration Team was established. They will begin their work in late January or February.

Near-Real-Time Flow of Daily Observations Presented

A review of the near-real-time flow of daily Cooperative observations was presented at the Directors meeting. The flow of observations is complete with the data now being uploaded daily to the National Climatic Data Center's (NCDC) web based forms system. Customers can now

receive observations in less than 24 hours after they were taken. A total of 6,157 stations are reporting. Included in this are 788 of the 1,200 Historical Climate Network (HCN) stations. This effort as been successful due to the cooperation and hard work of the Regional Climate Centers, the University of North Carolina-Asheville contractor, and several NCDC staff members.

SCIENTIFIC AND PROFESSIONAL ACTIVITIES

✦ Climate and Global Change

Proposals Submitted to ASHRAE

The National Climatic Data Center (NCDC) submitted a proposal for the American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE) research project titled *Identify and Characterize International Weather Data Sets and Sources*. The objective of this project is to produce a web page which identifies major worldwide sources of weather data suitable for engineering applications. ASHRAE will evaluate proposals at their winter meeting in February 2000 and will notify the successful bidder in March. The project will then begin in April and have a duration of 15 months. The Regional Climate Centers (RCC) submitted a proposal for another ASHRAE project titled, *Sources of Uncertainty in the Calculation of Design Weather Conditions in the ASHRAE Handbook of Fundamentals (HOF)*. The goals of this project are: 1) to determine the criteria for length of record and data completeness including stations in the ASHRAE HOF; 2) develop a method to estimate hourly design conditions from daily temperature observations; and, 3) provide information on the variability, frequency and duration of extreme design conditions. This proposal was a joint effort between the High Plains Climate Center, the Western Regional Climate Center, and the Midwest Climate Center. Ken Hubbard, High Plains Climate Center, is the coordinator and will be the project PI if the RCC bid is accepted.

✦ Working Groups/Committees/ Meetings

Climate Reference Network Meeting

The National Climatic Data Center (NCDC) hosted a 2-day team meeting for the Climate Reference Network (CRN) on December 6-7, 1999. Items discussed included development of a CRN web page, funding, request for information responses, timeliness/milestones, number of stations study, and communications options. National Weather Service personnel stated that they have insufficient resources to commit to network maintenance, but they did want to participate in an advisory role in station selection and data coordination. Concern was also expressed that agencies might close a COOP site if a CRN station was co-located. The

Team tentatively selected the five sites for initial CRN station deployment.

FGDC Spatial Climate Working Group

National Climatic Data Center personnel participated in the first teleconference for the newly formed Federal Geographic Data Committee (FGDC) Spatial Climate Working Group. The group has Federal members from the U.S. Department of Agriculture's Natural Resources Conservation Service, Tennessee Valley Authority, U.S. Army Topographic Engineering Center, and the Air Force Combat Climatology Center. Non-federal associates include the University of Vermont, North Carolina State University, and Oregon State University. The goals of the working group are to 1) increase the awareness of spatial climate mapped data and products; 2) facilitate the exchange of spatial climate data and information; 3) establish and implement standards for spatial climate data quality, content and transferability; and 4) coordinate the identification of requirements and the collection and/or generation of spatial climate data to minimize duplication of effort. The first action items for the group are to draft a charter and develop a work plan for the upcoming year. The group is also looking to bring in additional members from the National Weather Service, the National Centers for Environmental Prediction, the Bureau of Reclamation and the National Geophysical Data Center.

HPD Workshop

On December 15th, a workshop was held for National Climatic Data Center (NCDC) and Orkand Corporation employees who are involved with the processing of Hourly Precipitation Data (HPD). The workshop traced all steps involved in HPD recording and processing from the punch paper tape being placed on the Fisher-Porter gage by the COOP Observer to final digital or paper record available to NCDC's customers. Another purpose of the seminar was to obtain uniformity in processing procedures.

American Geophysical Union (AGU) Meeting

John Hughes represented the National Climatic Data Center (NCDC) as part of the NOAA National Data Centers (NNDC) exhibit at the American Geophysical Union annual fall meeting held in San Francisco, CA, December 14-16, 1999. There were more than 7,600 scientists in attendance from the atmospheric, oceanic, hydrologic, space, and planetary sciences. Those who attended the exhibit were impressed with the presentation and variety of climate data and information available via NCDC's web site. Attendees were also impressed with the amount of additional off-line data and information available via CD-ROM and other media. Numerous questions were posed concerning satellite data and its availability via the Internet. Concerns about data remaining free to researchers were also voiced.

NESDIS Strategic Planning Teams

As part of the process to develop a National Environmental Satellite, Data, and Information Service (NESDIS) strategic plan, several teams have been established. Pete Steurer, Chief, Data Access Branch, at the National Climatic Data Center (NCDC) is a member of the Data and Information Services team, and Vernell Woldu, Chief, Climate Services Branch, of NCDC is a member of the Workforce team. Initial planning meetings will be scheduled during the month of January.

Unified Climate Access Network (UCAN) Meeting

National Climatic Data Center (NCDC) personnel led discussions on December 8th with the Regional Climate Center (RCC) Directors concerning the integration of the UCAN system (now in beta testing) with NCDC/NNDC online systems. The discussions resulted in several decisions and seven action items, to include the establishment of a Services Integration Team in January 2000. The overall plan is for a distributed database environment, with data available from the NNDC CDO database and from UCAN data sets. UCAN

products will be incorporated into the NNDC Online Store, so that customers may order these products in addition to the other NCDC products through a single web interface.

✦ Visitors

Visiting Scientist

Dr. Sam Shen of the University of Alberta visited the National Climatic Data Center November 29 - December 31, 1999, working with Climate Archeology and Analysis Branch personnel on development of a reconstructed data set of temperature using both GHCN and satellite derived fields, and to assess the error characteristics of the Global Historical Climatology Network data set.

Russian Visitor

Dr. Esphir Ya. Rankova from the Russian Institute for Global Climate and Ecology, Moscow, Russian Federation, visited the National Climatic Data Center December 6-10, 1999. She worked with the Center's long-time visiting scientist, Pavel Ya. Groisman on an issue involving instrumental homogeneity of precipitation time series over the former Soviet Union during the 20th century.

University of California-Santa Barbara Visitor

On December 7th, Linda Hill of the University of California-Santa Barbara toured the National Climatic Data Center (NCDC). She was in the Asheville area for a technology consortium meeting sponsored by Congressman Charles Taylor. She was very interested in the metadata database that NCDC maintains because she is working with a group funded to create a GIS Library and Gazetteer. While at NCDC, Linda presented a lecture about her current work which involves the designing of a GIS which allows a user to get myriad information about a particular location. Some of the information includes: archeological information, museum information, population statistics of the area, articles written about the area and topographic and geographic maps of the region etc. She would like to include weather and climatological data into this GIS as well to make it as comprehensive as possible. The project is still a work in progress, but should be a valuable research tool upon completion.

✦ Publications

Technical Report on Tornadoes

The National Climatic Data Center (NCDC) has completed Technical Report 99-02, *1998-1999 Tornadoes and a Long-Term U.S. Tornado Climatology*. The report is available online via the Extreme Weather and Climate Events web page (http://www.ncdc.noaa.gov/extremes.html), the Online Store (http://nndc.noaa.gov/), and in paper copy form. It includes details about the 1998 and 1999 tornado seasons, which thus far accounted for more than 220 fatalities, an unusually high number in recent years. Specific events are reviewed, such as the May 1999 outbreak in Oklahoma and Kansas. The report provides detailed long-term climatologies with maps showing annual averages (by state and per 10,000 square miles by state) for the number of tornadoes and the number of F2-F5 tornadoes. Since most deaths are related to F2-F5 intensity tornadoes, the map showing their frequency normalized per 10,000 square miles is rather indicative of the variation in risk from state to state. Finally, the report provides a historical list of F5 tornadoes from 1880-1999. This is the 21st in a series of technical reports dating back to 1993.

✦ Interactions with NOAA Line Offices

NOAA 30th Anniversary Committee

A review of ongoing National Oceanic and Atmospheric Administration (NOAA) 30th Anniversary planning activities was conducted during a bi-weekly telephone conference. A

calendar/planner containing facts on NOAA gathered by the committee was sent to the printers and will be distributed in early January. Graphics from the planner will be used in the NOAA 30th Anniversary Web Page (www.30th.noaa.gov). Several of the planner graphics will be made into commemorative posters as well. The kick-off ceremony is scheduled for January 12, 2000, and will be a live online event.

EMPLOYEE ACTIVITIES

✦ EEO and Community Outreach

Visit to Pisgah Forest Elementary

Greg Hammer of the National Climatic Data Center spoke to a 5th grade science class on Wednesday, December 8th. The class has been studying about weather in their science class and Greg discussed a wide variety of weather related topics with them. Topics included: the difference between a climatologist and a meteorologist, a typical work day, would this be a snowy winter, El Niño and La Niña, what causes tornadoes to form and lightning safety. The students were very engrossed in the subject matter and have been taking daily weather observations at their school as well as keeping a weather notebook about daily high and low temperatures from about a dozen locations across the Western Hemisphere.

Hispanic Outreach

The National Environmental Satellite, Data, and Information Service (NESDIS) requested input from the National Climatic Data Center (NCDC) concerning a White House initiative on support to the Hispanic Community. John Hughes, Outreach Coordinator for NCDC, provided detailed information on the NCDC FY 00 Plan on Support to Minority Serving Institutions, which will be used in the response being prepared for the National Oceanic and Atmospheric Administration.

✦ Personnel Resources

Personnel Resources

North Carolina State University student Andy Goldstein returned to the National Climatic Data Center (NCDC) during his winter break. Andy transferred knowledge about cutting edge web development that he is currently involved with at NC State. He will give a workshop training session on JAVA Servlet technology to about 30 NCDC employees in January.

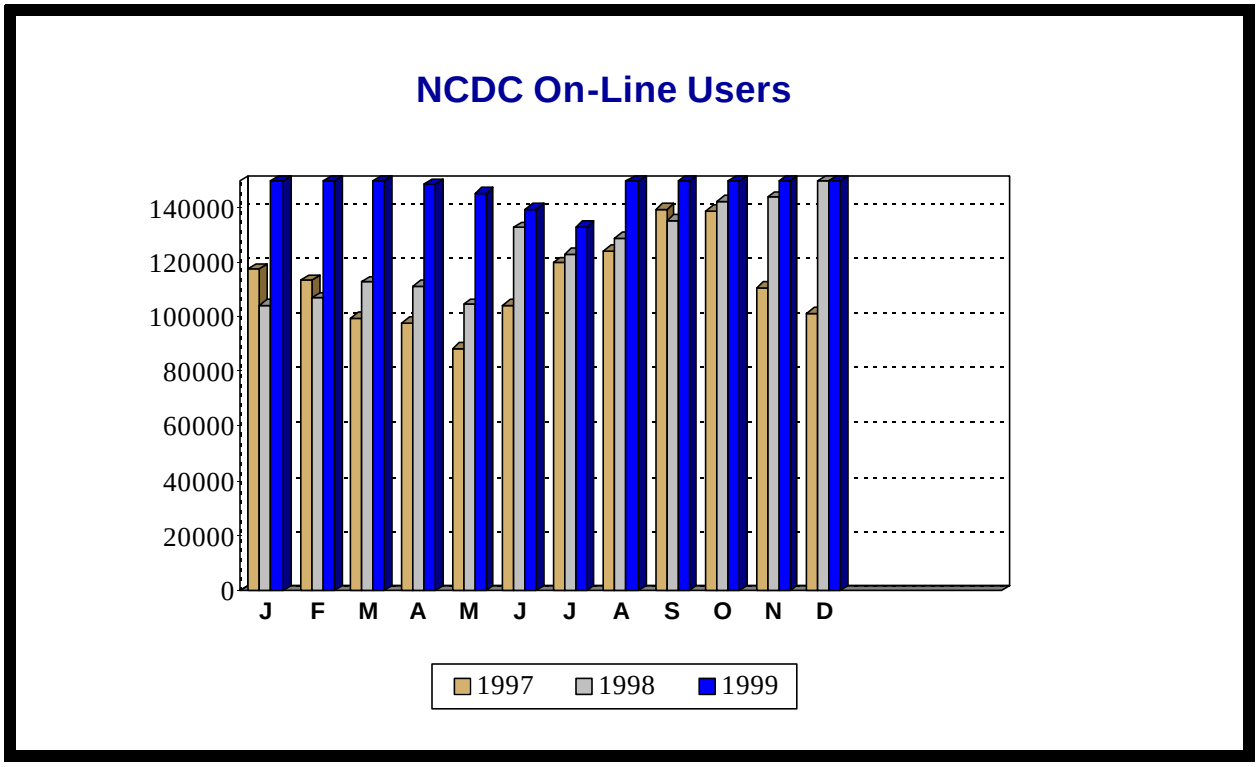
The following charts and graphs show the latest National Climatic Data Center user and data statistics.

Customer Profile Based on Orders

No information available for the month of December 1999.

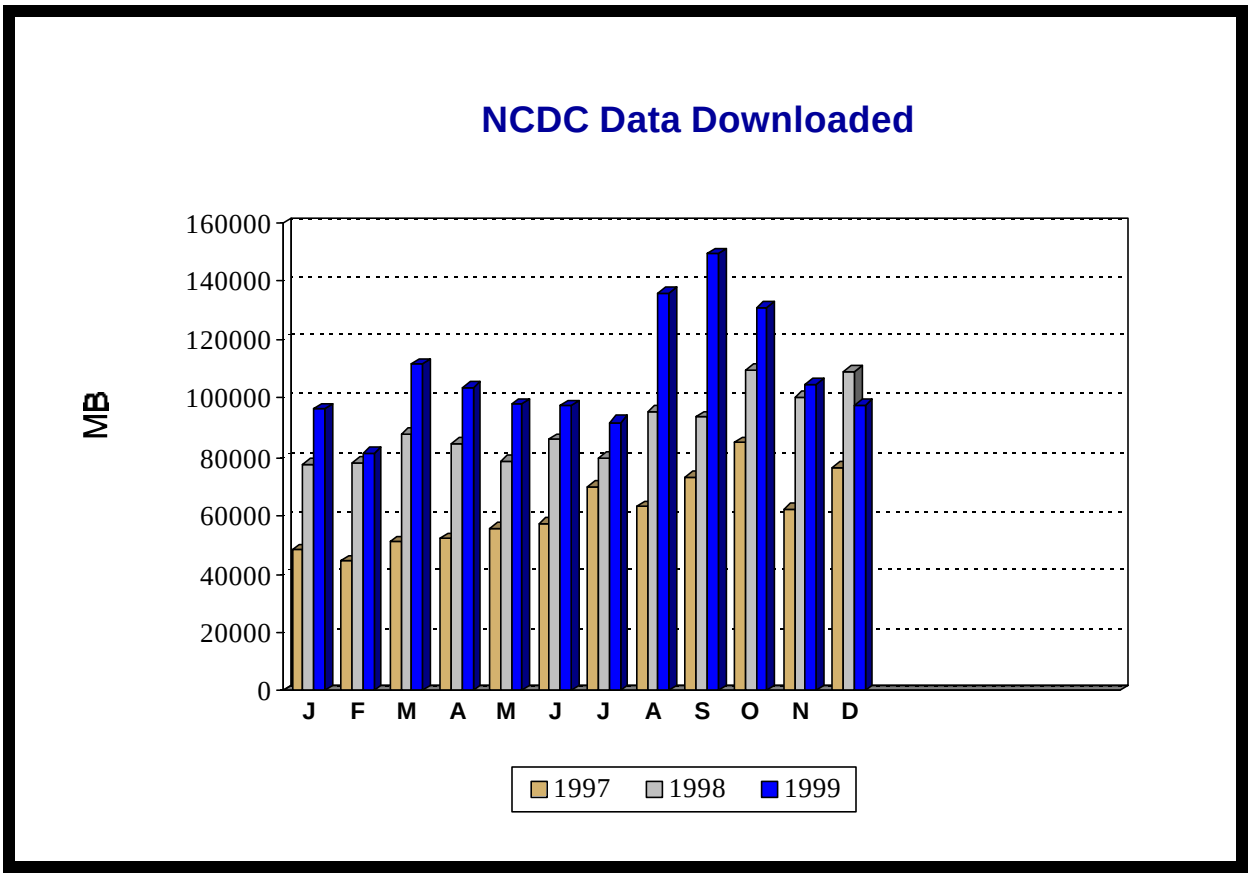
Customer Profile Based on Order Cost

No information available for the month of December 1999.



NCDC Off-Line Customer Contacts

No information available for the month of December 1999.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